

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-36 (cancelled).

Claim 37 (currently amended). A process comprising bonding foam crumb with a polyurethane prepolymer prepared from an acidified isocyanate treated with an acid to achieve a concentration of about 100 ppm to about 4000 ppm of the acid in the prepolymer.

Claim 38 (currently amended). The process of claim 37, wherein said acidified ~~polyisocyanate~~ isocyanate is an acidified polyisocyanate ~~prepolymer~~.

Claim 39 (previously presented). The process of claim 38, wherein said prepolymer is prepared by reacting a mixture comprising an acid, a polyisocyanate, and a polyol.

Claim 40 (previously presented). The process of claim 39, wherein said mixture further comprises a processing oil.

Claim 41 (previously presented). The process of claim 39, wherein said polyisocyanate includes a methanediphenyl diisocyanate.

Claim 42 (previously presented). The process of claim 39, wherein said polyisocyanate includes 2,4-methandiphenyl diisocyanate, 4,4'-methane diphenyl diisocyanate, and/or polymeric methanediphenyl diisocyanate.

Claim 43 (previously presented). The process of claim 39, wherein said acid is selected from the group consisting of hydrogen chloride, hydrogen fluoride, hydrogen bromide, phosphoric acid, nitrous acid, nitric acid, sulfurous acid, sulfuric acid,

hypochlorous acid, chlorous acid, chloric acid, perchloric acid, benzoyl chloride, and thionyl chloride.

Claim 44 (previously presented). The process of claim 39, wherein said acid includes anhydrous hydrogen chloride.

Claim 45 (previously presented). The process of claim 39, wherein said polyol includes a polyether polyol.

Claim 46 (previously presented). The process of claim 45, wherein said polyether polyol is a polyoxypropylene-polyoxyethylene polyol.

Claim 47 (canceled).

Claim 48 (previously presented). The process of claim 37, wherein said foam crumb includes flexible polyurethane foam crumb.

Claim 49 (previously presented). The process of claim 37, wherein said foam crumb has dimensions in the range of about 0.1 cm to about 5 cm.

Claim 50 (currently amended). The process of claim ~~37~~ 38, wherein the amount of acidified polyisocyanate used to bond said foam crumb is, relative to the total weight of foam crumb and acidified polyisocyanate, at least about 5 wt%.

Claim 51 (currently amended). The process of claim ~~37~~ 38, wherein said process comprises spraying said acidified polyisocyanate on said foam crumb to provide sprayed foam crumb.

Claim 52 (previously presented). The process of claim 51, wherein said process further comprises tumbling said sprayed foam crumb.

Claim 53 (currently amended). The process of claim ~~37~~ 38, wherein said process further comprises curing said acidified polyisocyanate.

Claim 54 (previously presented). The process of claim 53, wherein said curing includes subjecting the acidified polyisocyanate to steam.

Claim 55 (previously presented). An article produced with the process of claim 37.

Claim 56 (previously presented). The article of claim 55, wherein said article is a carpet pad, a packaging foam, an automotive headliner, a sound installation, or a shoe sole.

Claim 57 (previously presented). The article of claim 55, wherein said article is a carpet pad.

Claim 58 (currently amended). A process for producing a rebonded foam product comprising the steps of:

- A) providing a particulate mass comprising foam crumb particles;
- B) providing an acidified ~~polyisocyanate~~ polyurethane prepolymer adhesive having a concentration of about 100 ppm to about 4000 ppm of acid in the prepolymer, said adhesive prepared by combining at least the following ingredients ~~under conditions suitable for the formation of an acidified isocyanate group containing prepolymer~~:
 - i) one or more polyisocyanates of the MDI series;
 - ii) at least one added acid; and
 - iii) at least one polyol;
- C) applying the acidified prepolymer to the particulate mass under conditions which promote the distribution of the prepolymer throughout the bulk of the particulate mass, thereby forming a prepolymer treated mass of particles;

- D) consolidating and compressing said prepolymer treated mass of particles under conditions which provide for curing of the prepolymer to form an adhesive rebonded foam particle; and
- E) recovering an adhesive rebonded foam article.